

**ARIZONA GAME AND FISH DEPARTMENT
HABITAT PARTNERSHIP COMMITTEE
HABITAT ENHANCEMENT AND WILDLIFE MANAGEMENT PROPOSAL**

Game Branch / HPC Project Number: 13-703

PROJECT INFORMATION

Project Title: Effect of Fall Harvest on Turkey Populations in Arizona

Region and Game Management Unit: Regions 1 (GMUs 1 and 4) and 2 (GMUs 8, 12A)

Local Habitat Partnership Committee (LHPC):

- Williams/Flagstaff HPC

Was the project presented to the LHPC?

YES[x] **NO**[]

Has this project been submitted in previous years? **YES**[x] **NO**[]

If Yes, was it funded? **YES**[x] **NO**[] → **Funded HPC Project #(s):** 12-215

Project Type: Wildlife Management – Telemetry, Mortality

Brief Project Summary: Radio transmitters will be attached to Merriam's turkeys in GMUs 1, 4, 8, and 12A. We will determine if the fall hunting harvest of hen turkeys exceeds 10% in each unit.

Big Game Wildlife Species to Benefit: Merriam's turkey

Implementation Schedule (Month/Day/Year):

Project Start Date: December 1, 2012

Project End Date: December 31, 2015

Environmental Compliance:

NEPA Completed: Yes[] No[] N/A[x]

Projected Completion Date: _____

State Historic Preservation Office - Archaeological Clearance:

Yes[] No[] N/A[x]

Projected Completion Date: _____

Arizona Game and Fish Department EA Checklist: N/A[]

To be Completed by: Tom McCall

Projected Completion Date: December 2015

PROJECT FUNDING

Special Big Game License Tag Funds Requested: \$ 10,000

Cost Share or Matching Funds: \$ 11,050

Total Project Costs: \$ 21,500

PARTICIPANT INFORMATION

Applicant (please print):

Tom McCall

Address:

Arizona Game and Fish Dept.
3500 S. Lake Mary Rd.
Flagstaff, AZ 86001

E-mail:

tmccall@azgfd.gov

Telephone: 928-214-1248

Date: 8/27/2013

AGFD Contact and Phone No. (If applicant is not AGFD personnel):

Project has been coordinated with: Brian Wakeling and Rick Langley

NEED STATEMENT – PROBLEM ANALYSIS:

This project was initiated in Units 8 and 12A in December 2012. We propose to continue the project for a third year because we will not initiate the study in Units 1 and 4 until the second year of the study (Jan 2014). Therefore, to have 2 years of data for Units 1 and 4, we will need to conduct the study through 2015. In addition, our sample size of radioed females in Region 2 going into fall 2013 was less than desirable. We had 20 radioed females in Unit 8 going into the fall and only 13 females in Unit 12A. Ideally, we would have wanted 25 radioed birds going into the fall season in each unit. To help ensure a sample size of at least 25 for each study area going into fall 2014, at least 33 females will need to receive transmitters in each area during 2013-2014 winter trapping period to account for 33% mortality. The battery life for the transmitters is 2 years; therefore, to continue the study for a third year in Units 8 and 12A, some new transmitters will have to be put out.

Arizona's turkey population is relatively small, compared to those in many other states. Either-sex of turkeys can be harvested during the fall, but spring harvest is for bearded turkeys and most of these are males. Excessive fall harvest could be keeping the turkey population below its potential.

In the mid-1990s, Vanguilder and Kurzejeski completed a turkey study in Missouri looking at the impact of fall harvest. They concluded that less than 5-10% of a turkey population should be harvested in the fall to ensure that fall harvest does not impact the population.

However, Arizona does not have detailed population data to know what percentage of the population is harvested each spring. To ensure a stationary or increasing turkey population, some biologists believe that the preferred approach is to set conservative fall harvest levels and carefully monitor future harvest and population indices. Some biologists have suggested that a conservative fall harvest should be about one-third to one-half of the spring harvest so that there are no population level impacts. Currently, fall harvest of turkeys in GMUs in Arizona ranges from one-half to 2 times the spring harvest. A 2006 Department survey showed that of hunters that preferred turkey hunting over other types of hunting, 70% of the hunters preferred the spring turkey season over the fall.

States are across the board on whether or not they have a fall harvest and how intensive the fall harvest is. Some states that have many more turkeys than Arizona, don't have a fall hunting season or it is very limited, such as Arkansas (limited), Georgia, Indiana (limited) Louisiana, Mississippi (limited), North Carolina, South Carolina, Virginia (limited), West Virginia (limited), and Utah.

PROJECT OBJECTIVES:

The objectives of this project are to determine what proportion of the turkey population is removed due to fall harvest over a 3-year period.

PROJECT DESCRIPTION AND STRATEGIES:

Twenty-five yearling and adult hens would receive backpack VHF transmitters in each unit. Eight-12 new birds in each unit would need to receive transmitters each year because of the mortality of radioed birds. Annual mortality normally runs from 30 to 50%.

Turkeys would be captured with rocket nets from December-March each year. As part of the revised Hot Works Policy, no rocket netting would occur during times of "high" or "extreme" fire danger, or at any time during a Red Flag Warning/Watch. All personnel will have basic knowledge of accepted

use of rocket or cannon nets for wildlife capture.

The Regional Game Specialists and Regional Wildlife Managers would conduct the field work.

Each transmitter will have an 8-hr delay mortality switch. Radioed turkeys will be monitored from fixed-wing aircraft and from ground 6 times per year. In particular, turkeys would be monitored just prior to the fall archery season and just after the fall shotgun season.

Causes of mortality during fall season will be determined by investigating the recovery site, carcass, transmitter, and harness. If illegal or wounding losses are suspected, carcasses that are recovered will be x-rayed to determine presence of shot. Turkeys thought to have died due to disease will be sent to the Washington State University's Veterinarian Lab. Few carcasses are anticipated because of the rapid rate that they will probably be consumed by predators or scavengers.

If female turkeys survive a year, they will be added in the following year's radioed birds. Survival rates of turkeys will be calculated. Finally, we would use fall and spring harvest information to determine turkey population trends.

PROJECT LOCATION:

Region 1 – GMUs 1 and 4.

Region 2 – GMUs 8 and 12A.

LAND OWNERSHIP AT THE PROJECT SITE(S):

(if the project area is private property, please state specifically and provide the landowner's name)

U.S. Forest Service, State Lands

*IF PRIVATE PROPERTY, IS THERE A COOPERATIVE BIG GAME STEWARDSHIP or
LANDOWNER AGREEMENT BETWEEN THE LANDOWNER AND THE DEPARTMENT?*
YES[] NO[] N/A[]

HABITAT DESCRIPTION:

Major vegetation zones for the project areas are a mixture of Montane Conifer Forest, Pinyon-Juniper Woodland, Riparian Deciduous Woodland, and Grassland.

Average elevation is 6,800 feet.

ITEMIZED USE OF FUNDS:

Special Big Game License Tag Funds

Year 3

Radio transmitters – 50@\$200 each = \$10,000

Cost Share or Matching Funds (for volunteer labor rates please refer to the worksheet below)

Year 3

Fixed-wing flight time to monitor radios - 72 hours @ per hour = \$10,800

Supplies – shock cord for attaching transmitters, rocket-net charges = \$250

Total = \$11,050

LIST COOPERATORS AND DESCRIBE POTENTIAL PARTICIPATION:

The National Wild Turkey Federation (NWTf) provided \$5,000 towards the project for 2012. NWTf members will be asked to volunteer for the live-trapping of the turkeys. The project proposal was presented at NWTf's statewide meeting and the Mingus Mountain Longbeard Chapter meeting.

WOULD IMPLEMENTATION OF THIS PROJECT ASSIST IN PROVIDING, MAINTAINING, OR FACILITATING RECREATIONAL ACCESS?

YES[] NO[x] N/A[]

PROJECT MONITORING PLAN:

Radioed turkeys will be monitored from fixed-wing aircraft and from the ground 6 times per year. Monitoring will be emphasized just prior to the fall archery season and just after the fall shotgun season.

PROJECT MAINTENANCE:

Regions 1 and 2 game specialists and wildlife managers would provide project maintenance. Eight-12 new turkeys in each unit would receive transmitters each year because of the annual mortality of radioed birds.

PROJECT COMPLETION REPORT TO BE FILED BY:

Tom McCall

WATER DEVELOPMENT PROJECTS (please use the worksheet below):

TREE CLEARING/REMOVAL PROJECTS (please use the worksheet below):

ARIZONA GAME AND FISH DEPARTMENT **WATER DEVELOPMENT WORKSHEET**

PROJECT TITLE: _____

- 1) **Is the water development listed as a priority in the most recent “Wildlife Water Development Annual Implementation Schedule?”**
- 2) **Please list the Development Branch personnel and date coordinated with for this project.**
- 3) **What is the estimated annual inches of precipitation for the area? (mark one)**
☐2-4 ☐4-6 ☐6-8 ☐8-10 ☐10-12 ☐12-14 ☐14-16 ☐ >16
- 4) **Is there a perennial water source available to big game within four miles of this project?**

YES ☐ (please complete #5 below) NO ☐ (skip #5 below)

- 5) **For the accessible, perennial water source nearest this project:**

Name of water source:

Type of water source (catchment, spring, dirt tank):

Ownership of water source:

Distance in miles from project:

- 6) **Is the target wildlife species a result of transplant efforts? YES ☐ NO ☐**

- 7) **Please list any special land management status for the project site (i.e. Wilderness, National Park, National Monument). If private land, list landowner.**

- 8) **Please provide the following information about access to the proposed site:**

Type of access (mark one): ☐2x4 vehicles ☐4x4 only ☐foot only**

**If foot access only: Distance in miles: _____ Approximate hiking time: _____

-- Does access to this site require crossing private or tribal lands? YES ☐ NO ☐

-- Please describe any restrictions to public access:

- 9) **Please list below (or on a separate sheet) the material type and dimensions of each component proposed to be added, modified, or repaired.**

- 10) **Was a site visit completed? Yes ☐ No ☐**

If Yes, please list personnel that attended and date.

ARIZONA GAME AND FISH DEPARTMENT TREE CLEARING/REMOVAL WORKSHEET

PROJECT TITLE: _____

- 1) What is the estimated acreage of the project?**
- 2) How are the trees going to be cleared? (agra axe, chain saw, grubbing, push, chaining):**
- 3) What is the estimated number of trees per acre?**
- 4) Describe trees to be cleared (species, estimated diameter, single stem, multi-stem):**
- 5) Describe terrain (slope, soil type, rocks)**
- 6) Please list any special land management status for the project site (e.g. Wilderness, National Park, National Monument). If private land, list landowner.**
- 7) Please provide the following information about access to the proposed site:**
Type of access (mark one): ☐ 2x4 vehicles ☐ 4x4 only ☐ Foot only**

**If foot access only: Distance in miles: Approx. hiking time:

Does access to this site require crossing private or tribal lands? YES ☐ NO ☐

Is the site relatively accessible for tree removal equipment? YES ☐ NO ☐

Please describe any restrictions to public access:

ARIZONA GAME AND FISH DEPARTMENT

VOLUNTEER HOURLY RATES AND CLASSIFICATIONS WORKSHEET

PROJECT TITLE: _____

The value of volunteer labor should be calculated at the hourly rate of an employee doing similar work, or using hourly rates from the Arizona Department of Administration's Human Resource web site, plus a standard ERE rate of 35%. http://www.hr.az.gov/HR_Professional/Class_Comp/PDF/alphacovered.pdf

\$0.445/mile should be the calculation used for mileage.

Water Development	Volunteer Hours	Volunteer Miles	Hourly Rate	Estimated Value
			\$14.14	
Habitat Restoration and Clean Up	Volunteer Hours	Volunteer Miles	Hourly Rate	Estimated Value
			\$14.14	
Fisheries	Volunteer Hours	Volunteer Miles	Hourly Rate	Estimated Value
			\$14.14	
Nongame Branch Project	Volunteer Hours	Volunteer Miles	Hourly Rate	Estimated Value
			\$14.14	
Misc/office work	Volunteer Hours	Volunteer Miles	Hourly Rate	Estimated Value
			varies	
Community Services	Volunteer Hours	Volunteer Miles	Hourly Rate	Estimated Value
			\$7.44	
Events and Other	Volunteer Hours	Volunteer Miles	Hourly Rate	Estimated Value
			\$14.14	
Research Branch	Volunteer Hours	Volunteer Miles	Hourly Rate	Estimated Value
			\$14.14	
Wildlife Area Hosts	Volunteer Hours	Volunteer Miles	Hourly Rate	Estimated Value
			\$17.44	
Education Programs	Volunteer Hours	Volunteer Miles	Hourly Rate	Estimated Value
			\$16.07	
Totals				